

REMARKS

Claims 35-39, 41-48 and 75 are pending in the application.

Claims 35-39, 41-48 and 75 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over a combination of Besser, U.S. Patent No. 5,582,881; Shan, U.S. Patent No. 6,140,288; Marieb, U.S. Patent No. 5,909,635; and Colgan, U.S. Patent No. 5,925,933.

The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Each of the three indicated factors must be shown in order to establish a *prima facie* case of obviousness, the burden of which is upon the Examiner. Claims 35-39, 41-48 and 75 are allowable over Besser, Shan, Marieb, and Colgan for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every feature in any of those claims.

The grounds for rejection of claims 35-39, 41-48 and 75 set forth by the Examiner in the present Action are word for word identical to those set forth in the previous action. Applicant notes that the limitation “the first layer being formed over the insulating layer and filling the opening” recited in claim 35 was added in the previous amendment, and that Applicant’s remarks and arguments set forth therein include points directed toward this recited element. The Examiner’s word for word copying of the previous basis of rejection does not address any of the applicant’s arguments regarding this recited limitation. Accordingly, the Examiner’s present Action fails to comply with MPEP § 707.07 which requires an Examiner’s action to address each of applicant’s arguments set forth in the

previous response in order to be complete. Accordingly, applicant believes the finality of the Action is premature. Applicant therefore requests withdrawal of the finality of the present Action and, upon notification of such withdrawal, will request a refund of the fees for filing the present Request for Continued Examination.

The Examiner indicates at pages 9-10 of the present Action that applicants failed to present argument regarding the cited combination of references in the previous Action. The Examiner further states that "applicant's argument is structured such that it discusses each reference alone with respect to what each individual reference teaches or fails to teach or 'contribute toward suggesting'". Applicant disagrees and requests reconsideration.

Applicant again notes with respect to MPEP § 2143 that if any one feature of a claim is not disclosed or suggested by the combination of references a *prima facie* case of obviousness has not been established. Accordingly, if any feature or combination of features of independent claim 35 are not suggested by the combination of reference relied upon by the Examiner a *prima facie* case is not established.

Independent claim 35 recites depositing a first layer comprising elemental aluminum or an aluminum alloy, the layer being formed over an insulating layer and filling an opening within the insulating layer. Claim 35 further recites depositing an alloy of titanium on the first layer, depositing a third layer comprising titanium nitride on the second layer and photopatterning the first second and third layers into a conductive line over a contact plug within the opening. If any of these recited features, or a combination thereof, is not disclosed or suggested by the combination of references relied upon by the Examiner, a *prima facie* case of obviousness has not been established.

In order to establish a *prima facie* case of obviousness, the references relied upon by the Examiner must suggest the recited depositing a first layer over the insulating layer and filling the opening which extends through the insulating layer to a diffusion region where the first layer comprises at least one of elemental aluminum or an aluminum alloy, and depositing a titanium alloy on the first layer. Besser discloses formation of various metal comprising layers which can include elements such as titanium, aluminum or a mixture thereof. As acknowledged by the Examiner at pages 3-4 of the present Action, Besser does not disclose or suggest an insulating layer having an opening extending through to a diffusion region, or formation of a first layer over a substrate having an insulative layer and an opening extending therethrough. Accordingly, Besser does not disclose or suggest the claim 35 recited formation of a first layer over an insulating layer and filling the opening. If Shan, Colgan and Marieb fail to contribute to suggesting this recited feature a *prima facie* case has not been established.

The Examiner indicates reliance upon the Colgan disclosure as suggesting photopatterning of layers. Nothing in Colgan contributes toward suggesting the claim 35 recited formation of a first layer comprising aluminum over an insulating layer and filling an opening which extends through the insulating layer. The Examiner further indicates reliance upon Example 1 of Shan as disclosing photopatterning of layers into conductive lines. However, the nothing in Example 1 or the entire Shan disclosure contributes toward suggesting the claim 35 recited formation of a first layer comprising aluminum or aluminum alloy over an insulating layer and filling an opening within the insulating layer.

As further indicated by the Examiner, Marieb is relied upon as disclosing heating a device having a titanium layer over aluminum at a temperature of 350-450° C. The heating

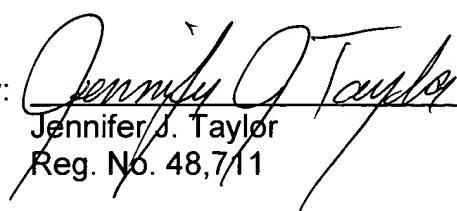
temperature disclosed by Marieb does not contribute toward suggesting the claim 35 recited formation of a first layer comprising aluminum or aluminum alloy over an insulating layer and filling an opening through the insulating layer to a diffusion region. Accordingly, since Besser does not disclose or suggest the recited feature of forming a first layer comprising aluminum or aluminum alloy over an insulating layer and filling an opening within the insulating layer as combined with the additional recited features of claim 35, and Shan, Colgan and Marieb each fail to contribute toward this recited feature, a *prima facie* case of obviousness has not been established and claim 35 is allowable over the combination of Besser, Shan, Colgan and Marieb.

Dependent claims 36-39, 41-48 and 75 each depend from claim 35. Accordingly, each of these dependent claims is allowable over the combination of Besser, Shan, Colgan and Marieb for at least the reason that they depend from an allowable base claim.

For the reasons discussed above pending claims 35-39, 41-48 and 75 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action. As further set forth above, the finality of the present Action is improper and applicant requests withdrawal of such finality in the Examiner's next action.

Respectfully submitted,

Dated: February 10, 2005

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